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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,706	03/27/2006	Naoki Tomoguchi	062287	3538

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EXAMINER

ORLANDO, MICHAEL N

ART UNIT	PAPER NUMBER
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1791

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/573,706	Applicant(s) TOMOGUCHI ET AL.	
	Examiner MICHAEL N. ORLANDO	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/28/2006; 03/27/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification. The specification exceeds the length of 20 pages and is therefore considered to be lengthy.

Claim Objections

2. Claim 13 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. For claim 13, it is already provided in claim 1 that an aqueous liquid is "caused to be present on the adhering surface" with the adhering surface provided as the interface between the film and polarizer, so the aqueous liquid "supplied on the adhering surface" does not provide any new limitation.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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4. Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

5. Regarding claim 1, the examiner agrees with the assertion of the International Search Report (ISR) in regard to the limitation (added as an amendment) of "an aqueous liquid, which comprises no adhesives". The examiner agrees with the ISR and also takes the position that the limitation goes beyond the scope of the disclosure in the description of the present application as filed. The examiner points to the fact that while the description indicates that it is possible to use water or the like as the aqueous liquid it is impossible to find any disclosure indicating that the aqueous liquid does not include an adhesive.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1-4, 6, 8-11 and 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higashio et al. (US 2003/0072078 A1) in view of Rogers (US 2,263,249).

Regarding claims 1, 13 and 18 Higashio discloses a method of manufacturing a polarizing plate by laminating a transparent protective layer ([0008], [0044]) to a polarizing film (i.e. polarizer. The laminating method includes utilizing an adhesive interposed there between whereby the adhesive can be applied directly to the transparent film and/or the polarizer ([0055]).

Higashio fails to disclose the use of an aqueous liquid, which comprises no adhesives on the adhering surface when the polarizer and transparent film layer are adhered.

Rogers teaches a method for making a laminated light polarizer whereby a polyvinyl alcohol based adhesive is used and water is applied to the bonding surface for the purpose of insuring uniform contact between the polarizing film and a substrate (column 4, lines 40-45).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the invention of Higashio to include adding water to the bonding interface in view of Rogers because such was known insure uniform contact between bonding surfaces, which would have served the purpose of providing for a clean, uniform seal between the two surfaces by limiting weak adhering locations and or appearance flaws which would have arisen with a non-uniform adherence.

Regarding claim 2, Higashio teaches the polarizer as a polyvinyl alcohol (PVA) based film ([0042]) and the transparent protective film as cellulose-based ([0044]).

Regarding claim 3, Higashio teaches the polarizing film with applicable thicknesses in the range of 5-80 μ m, which clearly includes thicknesses less than 35 μ m.

Although Higashio fails to explicitly teach the range of less than 35 μ m the general concept of polarizers are taught, as is a thickness range that substantially overlaps the claimed range and it would have therefore been obvious to include the specific use of the thickness range less than 35 μ m since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (*In re Aller*, 105 USPQ 233)

Regarding claim 4, Higashio teaches the use of a polyvinyl alcohol based adhesive ([0055]).

Regarding claim 6, Higashio teaches the use of cross-linking agents with the adhesive ([0061]).

Regarding claim 8, Higashio teaches the adhesive layer thickness applicable in the range of 1-500 μ m, which clearly includes thicknesses in the range of 30-300 μ m.

Although Higashio fails to explicitly teach the range of less than 30-300 μ m the general concept of the adhesive layer is taught, as is a thickness range that substantially encompasses the claimed range and it would have therefore been obvious to include the specific use of the thickness range less than 35 μ m since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (*In re Aller*, 105 USPQ 233)

Regarding claims 9 and 10, the invention disclosed in claim 1 uses water as the aqueous liquid, which inherently has a viscosity of around 1cP (≈ 1.002).

Regarding claim 11, the method of claim 1 is presented above, but Rogers who teaches the aqueous liquid fails to teach the cross linking agent alternatively dissolved therein; however, it can be seen from the presented teachings of Higashio (for example claim 6 above) that the use of cross linking agents was known and utilized with the presented invention.

It would have been obvious to one having ordinary skill in the art at the time of the invention to have utilized the cross-linking agent as disclosed by Higashio alternatively dissolved in the aqueous liquid of Rogers because general knowledge in the state the art of cross-linking agents would have provided that it was merely

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important to have the cross-linking agents and the adhesive mated at the time of curing and may have found the alternative more appealing in cases where the aqueous liquid was able to more easily dissolve the agent. The examiner, however, notes that the presentation of the cross linking agent dissolved in the aqueous solution does not seem to yield any specific advantage over that presented in the teachings above whereby the agent is dissolved in the adhesive and subsequently mated with the aqueous solution at bonding (they all become mixed regardless).

Regarding claims 14-17, as presented in claim 1 above Higashio in view of Rogers teaches the use of water at the bonding interface before adherence in the production of a light polarizer. Rogers teaches that water may be added to the polyvinyl alcohol coating (i.e. the adhesive) or by soaking the PVOH film in an aqueous solution (column 3, lines 5-20). The above teaching present (as in the instant claim 17) that the aqueous liquid is present at the adhering surface just before the adhesion between the substrates.

Higashio in view of Rogers fails to explicitly teach the water being alternatively added to the film and or the transparent layer in addition to the teaching that the water may be added to the PVOH based adhesive at the interface.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the water any location between the bonding surfaces because the important aspect of the invention presented above is that water be present at the interface to provide for uniform bonding and there is no indication that any of the effectiveness will be negated by manipulating the location so long as water contacts the

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adhesive at the point of adherence. Moreover it would have been further obvious to try the water at other locations within the interface with there being only a finite number of predictable solutions (add to the film, add to the adhesive or add to the transparent layer) and a reasonable expectation of success for each when armed with the teachings of Rogers.

Regarding claims 19-20, Higashio specifically teaches the invention relating to the manufacture of LCD (i.e. an image viewing display) ([0001]). The examiner recognizes the polarizing film laminate produced by Higashio as an optical film due to it being a film and possessing optical properties for use in a the manufacture of LCD systems.

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Higashio et al. (US 2003/0072078 A1) and Rogers (US 2,263,249), as applied to claim 1 above, in view of either Applicant's admitted prior art or Shuichi et al. (JP 7198945).

Regarding claim 5, the method of claim 1 is taught as seen above; however, the prior art of reference fails to teach the PVA based adhesive having an acetoacetyl group.

Applicant's admitted prior art discloses it was known in the art (through JP 7198945) that PVA based adhesives having an acetoacetyl group and a cross-linking agent were known (specification [0007]). Alternatively the same teachings can be found in Shuichi et al. (abstract).

It would have been obvious to one having ordinary skill in the art at the time of the invention to have included the PVA based adhesives having an acetoacetyl group

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and a cross-linking agent because as applicant admits such was known in the art for providing improved heat resistance and water resistance (see above cited).

11. Claims 7 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higashio et al. (US 2003/0072078 A1) and Rogers (US 2,263,249), as applied to claim 1 above, in view of either Okazaki et al. (US 5,945,209) of general knowledge in the art.

Regarding claims 7 and 12, Higashio fails to explicitly teach the compositions of the applicable cross-linking agent, but does recognize the use of cross-linking agents ([0061]). The silence as to the composition by Higashio is taken to indicate that any cross-linking agent known in the state of the art at the time of the invention would be applicable since there is no exclusion.

Okazaki et al. teaches that cross-linking agents including methylol compounds are known and can be used in combination with a binder (i.e. adhesive) (column 51, line 55 - column 52, line 6).

It would have been obvious to one having ordinary skill in the art at the time of the invention to have utilized a cross-linking agent including methylol groups because, as presented above, Higashio (as presented) is taken to be applicable for use with any known cross-linking agent and Okazaki specifically presents that methylol group containing cross-linking agents were available in the art at the time of the invention and moreover applicable for use with an adhesive. The examiner further contends that it would have also been obvious to one having ordinary skill in the art at the time the invention was made to use a cross-linking agent containing methylol compounds, since it has been held to be within the general skill of a worker in the art to select a known

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material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL N. ORLANDO whose telephone number is (571)270-5038. The examiner can normally be reached on Monday-Friday, 7:30am-5:00pm, alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Philip C. Tucker can be reached on (571) 272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MO

/Philip C Tucker/

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Supervisory Patent Examiner, Art Unit 1791